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23448 7590 06/23/2010

INTELLECTUAL PROPERTY / TECHNOLOGY LAW
PO BOX 14329
RESEARCH TRIANGLE PARK, NC 27709

EXAMINER

MOORE, WILLIAM W

ART UNIT

PAPER NUMBER

1656

DATE MAILED: 06/23/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,073

03/07/2006

Philip N. Bryan

4115-181

2283

TITLE OF INVENTION: ENGINEERED PROTEASES FOR AFFINITY PURIFICATION AND PROCESSING OF FUSION PROTEINS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	09/23/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

23448 7590 06/23/2010

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,073 03/07/2006 Philip N. Bryan 4115-181 2283

TITLE OF INVENTION: ENGINEERED PROTEASES FOR AFFINITY PURIFICATION AND PROCESSING OF FUSION PROTEINS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	09/23/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
MOORE, WILLIAM W	1656	435-069700

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,073	03/07/2006	Philip N. Bryan	4115-181	2283

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EXAMINER

MOORE, WILLIAM W

ART UNIT

PAPER NUMBER

1656

DATE MAILED: 06/23/2010

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 138 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 138 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	10/567,073	BRYAN, PHILIP N.	
	Examiner	Art Unit	
	WILLIAM W. MOORE	1656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 3 June 2010 and the interview conducted 21 June 2010.
2. ☒ The allowed claim(s) is/are 1, 4, 6, 7, 9-11, 13, 15-17 and 63-65.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other ____. |
|--|---|

/William W. Moore/
Examiner, Art Unit 1656

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee. All allowed claims, whether or not amended, are presented below to assist the printer.

Delete claims 3, 12, and 46-49.

Amend claims 1, 6, 7, 9-11, and 15-17 thus:

1. (Currently amended) A nucleic acid construct encoding a fusion protein, wherein the construct comprises a coding sequence for a protein of interest and a coding sequence for a subtilisin prodomain protein, wherein the fusion protein comprises the protein of interest operatively linked to the C-terminus of the subtilisin prodomain protein, wherein the subtilisin prodomain protein is modified to bind ~~binds~~ to a subtilisin or a variant thereof with a Kd of 10 nM or less and to form a stable complex, wherein the subtilisin or variant thereof is effective to cleave the protein of interest from the subtilisin prodomain protein, and wherein the subtilisin prodomain protein remains bound to the subtilisin or variant thereof following cleavage of the protein of interest from the modified subtilisin prodomain.
4. (Previously Presented) The nucleic acid construct according to claim 1, wherein the subtilisin prodomain protein comprises a variant of SEQ ID NO:2, wherein the variant comprises a substitution at one or more of positions ~~P1-P4~~ that correspond to the positions 74 through 77 of SEQ ID NO:2 wherein the substitution comprises any of F or Y substituted for the amino acid at the position corresponding to position 74 of SEQ ID NO:2 ~~P4~~, any amino acid residue substituted for the amino acid at the position corresponding to position 75 of SEQ ID NO:2 ~~P3~~, A or S substituted for the amino acid at the position corresponding to position 76 of SEQ ID NO:2 ~~P2~~, and M, F, Y H, or L substituted for the amino acid at the position corresponding to position 77 of SEQ ID NO:2 ~~P4~~.
6. (Currently amended) The nucleic acid construct according to claim 1, wherein the C-terminus of the subtilisin prodomain protein comprises substitutions of amino acid residues F or Y for the amino acid at the position corresponding to position 74 of SEQ ID NO:2 ~~P4~~, any amino acid residue for the amino acid at the position corresponding to position 75 of SEQ ID NO:2 ~~P3~~, A or S for the amino acid at the position corresponding to position 76 of

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SEQ ID NO:2 P24, and M, F, Y, H, or L for the amino acid at the position corresponding to position 77 of SEQ ID NO:2 P1 at the C-terminal end.

7. (Currently amended) A fusion protein comprising a ~~target~~ protein of interest operatively linked to the C-terminus of a subtilisin prodomain protein, wherein the subtilisin prodomain protein is modified to bind to a subtilisin or a variant thereof with a Kd of 10 nM or less and to form a stable complex ~~exhibit an increased affinity for subtilisin or a variant thereof, as compared to an unmodified subtilisin prodomain protein, and~~ wherein the subtilisin or variant thereof is effective to cleave the ~~target~~ protein of interest from the subtilisin prodomain protein, and wherein the subtilisin prodomain protein remains bound to the subtilisin or variant thereof following cleavage of the ~~target~~ protein of interest from the modified subtilisin prodomain.
9. (Currently amended) The fusion protein according to claim 7, wherein the subtilisin prodomain protein comprises the substitution of amino acids at positions that correspond to the positions 74 through 77 of SEQ ID NO:2 P4-P1 with the amino acid sequence set forth in SEQ ID NO:10 FKAM (SEQ ID NO: 10).
10. (Currently amended) The fusion protein according to claim 7, wherein the subtilisin prodomain protein comprises the amino acid sequence set forth in SEQ ID NO:7 E-E-D-K-L (F/Y) Q-S (M/L/Y) (SEQ ID NO: 7).
11. (Currently amended) The fusion protein according to claim 7, wherein the ~~target~~ protein of interest is staphylococcal Protein AB domain; Protein AB mutant A219; Streptococcal protein GB domain; Streptococcal protein Ga domain; Protein GB mutant G311; *E. coli* hypothetical Yab; Bovine α -subunit of transducin; *M. thermautotrophicus* CDC6; streptavidin; avidin; Taq polymerase; an alkaline phosphatase; a RNase; a DNase; a restriction ~~enzyme~~ enzymes; a peroxidase ~~peroxidases~~; an endo-1,4- beta glucanase; an endo-1,3-beta-glucanase; a chitinase ~~chitinases~~; a beta glucosidase; ~~and an~~ an alpha glucosidase ~~glucosidases~~; a beta glucuronidase; ~~and an~~ an alpha glucuronidase ~~glucuronidases~~; an amylase; a glucosyl-transferase ~~glucosyl-transferases~~; a phospho-transferase ~~phospho-transferases~~; a chloramphenicol-acetyl-transferase; a beta-lactamase; a luciferase; an esterase ~~esterases~~; a lipase ~~lipases~~; a protease ~~proteases~~; a bacteriocine ~~bacteriocines~~; an antibiotic ~~antibiotics~~; an enzyme inhibitor ~~inhibitors~~; a growth factor ~~factors~~; a hormone ~~hormones~~; a receptor ~~receptors~~; a membrane protein ~~proteins~~; a nuclear

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~~protein proteins; a transcriptional factor factors; a translational factor; factors or a nucleic acid modifying enzyme enzymes.~~

13. (Currently amended) A method for the production of a ~~subtilisin-binding~~ fusion protein, the method comprising:

providing a nucleic acid construct encoding a fusion protein wherein the fusion protein comprises a protein of interest operatively linked to the C-terminus of a subtilisin prodomain protein wherein the subtilisin prodomain protein is modified to bind subtilisin or a variant thereof with a Kd of 10 nM or less and to form a stable complex ~~increased affinity as compared to an unmodified subtilisin prodomain protein~~, wherein the subtilisin or variant thereof is effective to cleave the protein of interest from the prodomain protein, and wherein the subtilisin prodomain protein remains bound to the subtilisin or variant thereof following cleavage of the protein of interest of interest from the modified subtilisin prodomain;

transfecting a host cell with the nucleic acid construct; and

culturing the transformed host cell under conditions suitable for expression of the fusion protein.

15. (Currently amended) The method according to claim 13, wherein the subtilisin prodomain is modified by replacing the ~~P4 through P1~~ amino acids at positions that correspond to the positions 74 through 77 of SEQ ID NO:2 with an amino acid sequence set forth in SEQ ID NO:10, SEQ ID NO:11, or SEQ ID NO:12 ~~EKAM (SEQ ID NO: 10), EKAY (SEQ ID NO: 11) or EKAF (SEQ ID NO: 12).~~

16. (Currently amended) The method according to claim 15, wherein the protein of interest is staphylococcal Protein AB domain; Protein AB mutant A219; Streptococcal protein GB domain; Streptococcal protein Ga domain; Protein GB mutant G311; *E. coli* hypothetical Yab; Bovine α -subunit of transducin; *M. thermautotrophicus* CDC6; streptavidin; avidin; Taq polymerase; an alkaline phosphatase; a RNase; a DNase; a restriction ~~enzyme enzymes~~; a ~~peroxidase peroxidases~~; an endo-1,4- beta glucanase; an endo-1,3-beta-glucanase; a ~~chitinase chitinases~~; a beta glucosidase; and an alpha glucosidase ~~glucosidases~~; a beta glucuronidase; and an alpha glucuronidase ~~glucuronidases~~; an amylase; a glucosyl-transferase ~~glucosyl-transferases~~; a phospho-transferase ~~phospho-transferases~~; a chloramphenicol-acetyl-transferase; a beta-lactamase; a luciferase; an esterase ~~esterases~~; a lipase ~~lipases~~; a protease ~~proteases~~; a bacteriocine ~~bacteriocines~~; an antibiotic ~~antibiotics~~; an enzyme inhibitor ~~inhibitors~~; a growth factor ~~factors~~; a hormone ~~hormones~~; a receptor ~~receptors~~; a membrane protein ~~proteins~~; a nuclear protein ~~proteins~~; a

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transcriptional ~~factor factors~~; a translational ~~factor factors~~ or a nucleic acid modifying ~~enzyme enzymes~~.

17. (Currently amended) The method according to claim 13, wherein the host cells includes cells from *Escherichia coli*, *Bacillus*, *Salmonella*, *Pseudomonas*, ~~[[;]]~~ *Saccharomyces cerevisiae*, *Pichia pastoris*, *Kluveromyces*, *Candida*, *Schizosaccharomyces*; or CHO cells.

Add the new claims 63-65:

63. (New) A nucleic acid construct encoding a fusion protein, wherein the construct comprises a coding sequence for a protein of interest and a coding sequence for the amino acid sequence set forth in SEQ ID NO:7 wherein the fusion protein comprises the protein of interest linked to the C-terminus of the amino acid sequence set forth in SEQ ID NO:7.
64. (New) A fusion protein comprising a protein of interest linked to the C-terminus of the amino acid sequence set forth in SEQ ID NO:7.
65. (New) A method for the production of a fusion protein, the method comprising:
- providing a nucleic acid construct encoding a fusion protein wherein the fusion protein comprises a protein of interest linked to the C-terminus of the amino acid sequence set forth in SEQ ID NO:7;
 - transfecting a host cell with the nucleic acid construct; and
 - culturing the transformed host cell under conditions suitable for expression of the fusion protein.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Kelly K. Reynolds on 21 June 2010.

The following is an examiner's statement of reasons for allowance:

Applicant's amendments to claims 1, 7, and 13 filed 3 June 2010 state those features of the invention disclosed, e.g., in Example 6 at pages 25 and 26 of the specification, that distinguish it over the prior art of record herein, and examiner's amendments of claim 1-10 and 15 above to uniformly state the features of modified subtilisin prodomains enabled and adequately described by the disclosure of the specification, wherein two distinct regions of such prodomains may be modified to provide the required binding constant and the capacity to form a stable complex with a subtilisin that can persist after release of a desired fusion partner, and to clarify the recitations with reference to the structure of a typical prodomain set forth in SEQ ID NO:2. Claims 6, 9-11, 16, and 17 are also amended above to correct informalities and to clarify their subject matters.

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New claims 63-65 are added so that the allowed claims include the subject matter disclosed at page 25, lines 4-9, of the specification, thus claims 1, 4, 6, 7, 9-11, 13, 15-17 and 63-65 are allowed herewith.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William W. Moore whose telephone number is 571.272.0933 and whose FAX number is 571.273.0933. The examiner can normally be reached Monday through Friday between 9:00AM and 5:30PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisory Primary Examiner, Manjunath Rao, can be reached at 571.272.0939. The official FAX number for all communications for the organization where this application or proceeding is assigned is 571.273.8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571.272.1600.

/William W. Moore/
Examiner, Art Unit 1656

/Nashaat T. Nashed/

Primary Examiner, Art Unit